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Investigation of Graduate Students' Academic Self-Efficacy Beliefs

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Abstract

The aim of this study is determining academic self-efficacy beliefs of students pursuing graduate study and revealing their needs and shortcomings from the graduate education. Case study method was used and data were collected by a form developed by the researchers from 92 students receiving masters and Ph.D.'s in different programs. As a result of data analysis, it was determined that 35% of participants were sufficient in understanding the studies written in English while 29% of them were competent in benefitting these articles. Besides, 71% of participants stated that they were sufficient in preparing assignments, presentations, projects; 66% of them were in obtaining and reviewing the literature, 57% of them were in using the databases. While the ratio of participants feeling themselves sufficient in determining thesis subject was 28%, this ratio was 35% in writing thesis or proposal. Finally, while 38% of participants stressed that they were sufficient in analysing, understanding and interpreting the results of the qualitative findings while this ratio was 37% for quantitative data. At the end of the study, implications for graduate students and higher education institutions are discussed.

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1. Introduction

Growing up of qualified man power was expected generally from universities, especially from post graduate teaching programs. Post graduate teaching defined as a teaching program that allows people having undergraduate degree or diploma specialized on any field of science within a master or doctorate education (Oğuzkan, 1993). To reach the goals of a post graduate program it is important to bring out the perceptions of self-efficacies of students about the field they studied during their post graduate education. As the academic efficacies of these people increase, reaching the goals of program becomes easier. Schunk (1991) and Bandura (1997) define academic self-

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efficacy as judges of people about their skills in designing and carrying out actions necessary for reaching educational achievements they determined. One of the concepts that can be taken under academic self-efficacy is research qualification. Büyüköztürk and Köklü (1999), define research qualification as a component of research techniques, statistics, assessment - evaluation and computer knowledge domains. Baltes, Hoffman-Kipp, Lynn and Weltzer-Ward (2010) state that many students studying on education and social sciences have anxiety about learning concepts related to research. Also Baltes et al. said many students see themselves inadequate in preparing a thesis proposal and also in capturing the basic concepts which are necessary for making researches in doctorate level. Within these, it is known that having low academic self-efficacy level prevents students' research education and their ambitions about conducting a research and contribute to their own branches scientifically (Love, Bahner, Jones & Nilson, 2007). To have a high level of research self-efficacy is an effective factor on conducting a successful research and making researches beyond graduate works for a student (Lambie et al., 2013; Szymanski, Ozegovic, Phillips & Briggs-Phillips, 2007).

When the literature is examined, it is seen that graduate students' efficacy is one of the topics researched least in Turkey (Saracaloğlu, Varol & Ercan, 2005; Saracaloğlu, 2008; Aslan, 2010; İpek, Tekbıyık & Ursavaş, 2010). In his study, Aslan (2010) determined Turkish Education graduate students' academic self-efficacy beliefs and identified that participants feel themselves inadequate in mostly "Research Methods and Techniques", "Assessment and Evaluation", "Statistics", "Quantitative and Qualitative Research Methods", "Test Development", "Research Ethic", and "Foreign Language" topics. In the study of Gültekin and Dal (2007) where they examined graduate students' views about the classroom teacher doctorate program, participants stated inadequacy of courses in the program related to research techniques, statistics and field teaching. As indicated in the present literature, academic self-efficacy beliefs of graduate students are examined mostly in quantitative methods and studies that examined this topic deeply and in detailed were not conducted very much. Also when the literature was investigated, a research that examines graduate programs of different institutes is not found. In this regard, the aim of the present study is defining academic self-efficacy beliefs of graduate students and bringing out requirements of students in graduate education.

2. Method

This research is a qualitative case study that examines graduate students' academic self-efficacy and requirements they need during their education.

2.1. Participants

Sample of this research was consisted of 92 post graduate students of 63 female, 29 male who are studying in Science, Educational Science, Social Science and Health Science Institutes of different universities in 2012-2013 academic years. 87% of participants are from educational sciences, 9% from science, 2% from social and health science institutes.

2.2. Instrument

A survey form called "Graduate Students Survey" was developed based on three experts' opinion to collect the data. While developing the survey form process, review of literature was done and interviews with graduate students were conducted. The draft survey form prepared as a result of literature review and interviews was presented to experts' ideas and the content validity of the survey was guaranteed. The survey was redesigned in two parts due to the critics and feedbacks. On the first part of form there are eight questions about personal information of participants and on the second part there are nine questions about academic efficacy related to graduate education. The final form was applied to five graduate students before the data collection phase. Half of the participants are surveyed face to face and the survey was sent via e-mail to the other half of the participants.

2.3. Data analysis

In data analysis process the data gathered from the answers of participants to the six questions about their self-efficacy beliefs were coded as "inadequate", "partially adequate" and "adequate" and the percentages and

frequencies for these codes were also calculated. Then data about the underlying reasons of student requirements during post graduate education were analysed qualitatively. Codes were formed from the answers given by the participants. The survey form filled by a participant was coded by two researchers separately one by one to provide reliability of the coding process. Then the accordance of the coded codes was investigated. The reliability of coding is calculated with the View Consensus / (View Consensus + View Dissidence) (Miles & Huberman, 1994) formula and reliability factor was found as 0.85. The codes on which two encoders could not agree were rediscussed and then reached at a common decision.

3. Findings and Discussion

Data gathered from the answers of the participants given to the questions about research self-efficacy were evaluated as “adequate”, “partially adequate” and “inadequate” and data gathered from the answers of participants given to these questions were shown at Table 1.

Table 1. Academic self-efficacy beliefs of post graduate students

Codes	Inadequate		Partially adequate		Adequate	
	f	%	f	%	f	%
Understanding the studies written in a foreign language	17	18	43	47	32	35
Using the studies written in a foreign language	21	23	44	48	27	29
Preparing homework, presentations, projects during the post graduate courses	7	8	17	18	65	71
Reaching the literature, reviewing	6	7	25	27	61	66
Determining the thesis topic	23	25	37	40	26	28
Thesis proposal and thesis writing	31	34	23	25	32	35
Analyzing the qualitative findings and understanding and interpreting results	22	24	34	37	35	38
Analyzing the quantitative findings and understanding and interpreting results	24	26	33	36	34	37
Using databases	11	12	29	31	52	57

When the Table 1 was examined it is seen that 48% of the participants see themselves partially adequate in using studies written in foreign language, 47% of them see themselves partially adequate in understanding these studies and 40% of them see themselves partially adequate in determining thesis topic. Within these, it is determined that 71% of participants see themselves adequate in preparing homework, presentations, projects during post graduate courses, 66% of them see themselves adequate in reaching literature and reviewing, 57% see themselves adequate in using the databases, 35% of them see themselves adequate in writing a thesis proposal and a thesis. Also 38% of participants feel themselves adequate in analysing qualitative, 37% of them feel themselves adequate in analysing quantitative findings, understanding analysis results and interpreting them. These findings show that post graduate students have some difficulties during their education periods. Also in the literature it is stated that post graduate students feel themselves inadequate in such areas as research methods and techniques, assessing and evaluation and statistics (Kurt et al., 2007).

It is determined that the most important reason of participants' feeling themselves partially adequate in understanding and using studies written in a foreign language is “to think that their own foreign language level is inadequate (24)”. Moreover, participants stated some other reasons such as “some studies use a complex language (5), lack of vocabulary knowledge (4), usage of words with more than one meaning (2), lack of a good foreign language education (2) and inadequacy of the foreign language education given at university (1)”. When The Foreign Language Education and Teaching Regulations of National Education Ministry (URL-1, 2013) is considered, it is seen that there has been an obliged foreign language education given since 4th class. Considering the fact that English lessons are given as a compulsory or a multiple-choice lesson during the undergraduate and graduate

education, when participants are thought to have an idea as they are inadequate in a foreign language or the foreign language education given to them may be thought as inadequate. Thus, Yavuzer and Gover (2012) also stated that even foreign language education starts from primary school in our country, students do not have the expected success in examinations assessing foreign language level but graduate students studying for an academic career need to know a foreign language to understand studies written in a foreign language. Because in graduate education knowing the international literature has a great importance both for understanding originality and quality of the future studies and following the tendencies on the research field. For instance, Aslan (2007) said doctorate students have difficulties in researching about topics which are not studied in Turkey because of the lack of a foreign language.

Reasons of the students thinking themselves inadequate / partially adequate in preparing homework, presentations, projects are determined as “homework require much time (6), not feel himself adequate in preparing homework, presentations, projects (3), overloaded works required for the profession (3), newly beginning to graduate education (2), having difficulties in understanding the sources and determining the topic (2), and not to be able to read sources enough (1)”. These findings gathered from the study seem to be matched with the results of other studies in the literature. For example graduate students participated in the study of Düzkanar Uysal and Batu (2010) said they could not leave enough time to their lessons and homework because they had much thing to do in their jobs. Similar to these, Aslan (2007) brought out that doctorate students, who had much thing to do in their jobs, could not show enough effort in academic studies either.

Participants stated that their reasons of feeling themselves inadequate / partially adequate in reaching and reviewing the literature were such as “to have difficulties in determining the useful ones among the studies reached (1), getting far away from the subject researched (1), not to be a master of the subject researched (1), to have difficulties in reaching the studies written in a foreign language and determining the keywords (1)” effect their academic self-efficacy beliefs negatively. Since they do not know how to make a literature review, this can be said as a reason of participants who have difficulties in reaching and reviewing the literature. It is found in the literature that graduate students feel themselves inadequate about research methods and techniques too (Kurt et al., 2007). Also most of the participants who thought themselves adequate said they start to feel themselves adequate more after they took a course about this topic. Participants said they had difficulties in reaching the sources too. This situation may happen because of the lack of their foreign language education. Thus, in the study of Düzkanar Uysal and Batu (2010) participants stated that they had difficulties most in reviewing literature and they related this to their foreign language deficiency or their lack of knowledge about reaching the sources. Another finding about the participants that they could not determine which source might be useful for them matches with literature (İpek-Akbulut, Şahin & Çepni, 2013) too.

Participants see themselves inadequate / partially adequate in using databases and also indicated that such factors as “not knowing how to reach the databases and how to use databases exactly (17), newly beginning to use databases (2), not having an education about usage of databases (2), lack of a foreign language (2)” effects their academic self-efficacy beliefs about this subject negatively. It is understood that participants had difficulties especially in using databases. This situation matches with participants’ beliefs of feeling themselves inadequate / partially adequate in reaching and reviewing the literature. Thus, two participants of the study done by İpek-Akbulut et al. (2013) said they did not know how to use databases and so they had difficulties in finding sources too. Also there had been seen participants who had difficulties in using databases since they had a lack of foreign language. This finding matches with the findings about participants self-efficacy beliefs of understanding and using studies written in a foreign language. Akgün, Güleç and Bayrakçı (2011) found in their research that graduate students had difficulties in foreign languages too.

Reasons of participants about feeling themselves inadequate / partially adequate in determining a thesis topic are identified as “being undecided in selecting a research topic (11), demanding the help of an advisor (6), thinking that thesis topic must be original (5), not to be a master in current literature (4) and missing the main topic because of field changing (1)”. When the related literature is examined, it is seen that similar findings were found. For example in the studies of Aslan (2010), Çetin, Asker, Çirkinoglu and Karaca (2007) stated that students decide their thesis topic after thinking about more than two subjects for a long time. Factors as original subject expectancy (Aslan, 2007; Düzkanar & Batu, 2010), changing the field (Düzkanar & Batu, 2010) were said to be the reasons of difficulties for students in determination of thesis topic by different researchers. Also as stated in the literature (İpek-

Akbulut et al., 2013), participants indicated that since they were not a master about the literature, they had difficulties in determination of thesis subject.

The most important reason for participants to feel themselves inadequate / partially adequate in writing a thesis proposal and a thesis was determined as “the lack of experience in writing a thesis (17)”. This is said by the master students more. Within these, reasons as “feeling himself inadequate in statistical analysis (1), having difficulties in determination of main and sub problems (1), having difficulties in writing findings and results (1), long time data analysis (1), having difficulties in using academic language (1), the differentiation in thesis proposal writing criteria of universities (1)” are some other factors effecting academic self-efficacy of participants negatively. The findings as data analysis require long time, there are difficulties in writing findings and results seem to match with the findings of Ipek-Akbulut et.al (2013).

“Not taking a quantitative data analysis course (6) or not conducting any quantitative study even the lesson is taken (6)” come as the leading reason of participants to feel themselves inadequate / partially adequate in analysis of quantitative findings. Also “being in the process of taking a quantitative data analysis lesson (4), thinking the courses taken about quantitative data analysis were inadequate (2), not being able to decide which test must be used to understand and interpret quantitative data (2), forgetting how to use programs about analysis of quantitative data (2)” are the other reasons participants stated. It is understood that reasons of participants about feeling themselves inadequate / partially adequate in analysis and interpretation of qualitative data are mostly “thinking themselves inadequate in qualitative data analysis (9), not having a qualitative study even they took qualitative data analysis course (8), or to be just taking that course (6)”.

Graduate students seem to offer taking “qualitative (53) and quantitative data analysis (62)” courses to have an effective graduate education. “Introduction to Research and Project Studies (49) and meta-analysis (23)” are among other important courses participants think should be taken. Within these some of the participants indicated graduate students need to have lessons about “their own research field (9) and academic writing (9)”. It is denoted in the literature that post graduate students should take courses about their own fields (Düzkanar Uysal & Batu, 2010) and also courses as “Scientific Research Methods and Qualitative / Quantitative Data Analysis” during their graduate education (Arslan, 2007; Kurnaz & Alev, 2009).

4. Results and Recommendations

The results of the study and recommendations in light of these results are given below:

- To prevent graduate students' difficulties in foreign language, universities should offer mandatory language preparation educations or they should give foreign languages courses.

- Most of the participants think that since their professions need much time to work, if the projects and homework that require less time are given to them, they will do more qualified studies. That's why if the graduate students take 2 or 3 lessons in one term, they can spend more time on their studies and they may have a more effective education.

- The most important reason of participants difficulties in reaching the scientific articles and reviewing literature is that they do not know how to use databases exactly and they have troubles in choosing the studies they might use. When these results are considered, it can be said that giving such courses as “Meta-Analysis” to graduate students or designing some courses or seminars about these topics can improve efficacies of graduate students.

- It is thought that if participants have cooperation with advisors in determining the thesis subject and they get help of them in necessary situations, it may be useful for them.

- Since courses have a great importance in removing inadequacies in writing a thesis proposal or thesis, it is thought informing students about thesis writing during their graduate education may be useful for them.

- To remove inadequacies of participants in analysing the quantitative / qualitative findings and interpreting the results, improving the contents of “Qualitative / Quantitative Data Analysis” courses, giving to students homework about applications on these courses and giving “Qualitative/Quantitative Data Analysis”, “Meta-Analysis”, “Research and Project Studies” courses are offered.

References

Akgün, Ö. E., Güleç, İ., & Bayrakçı, M. (2011, May). *Expectation level of graduate lessons to higher education adequacy: Sakarya University sample*. İstanbul: International Higher Education Congress: New Trends and

Issues.

- Aslan, C. (2007). The problems of postgraduate students who are at Ankara University institute of educational sciences related to postgraduate education. *National Education Journal*, 174, 250-269.
- Aslan, C. (2010). The opinions of the Turkish educational postgraduate students about their academic self-efficacy. *Mehmet Akif Ersoy University Journal of Faculty of Education*, 10(19), 87-115.
- Baltes, B., Hoffman-Kipp, P., Lynn, L., & Weltzer-Ward, L. (2010). Students' research self-efficacy during online doctoral research courses. *Contemporary Issues in Education Research*, 3(3), 51-57.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Büyüköztürk, Ş., & Köklü, N. (1999). Views of instructors about research adequacies of graduate students studying on educational sciences. *Education and Science*, 23(112), 18-28.
- Çetin, G., Asker, E., Çirkinoglu, A. G., & Karaca, D. (2007, October). *The problems graduate students faced during the reconstruction process of education faculties*. III. Post Graduate Education Symposium, Anadolu University, 162-171.
- Düzkanar-Uysal, A., & Batu, S. (2010). Opinions of masters students of special education major about the masters program. *Anadolu University Journal of Social Sciences*, 10(2), 227-247.
- Gültekin, M., & Dal, S. (2007, October). *Views of classroom teacher doctorate students about the classroom teaching doctorate program*. III. Post Graduate Education Symposium, Anadolu University, 275-286.
- Güven, İ., & Tunç, B. (2007). Postgraduate students' academic problems (The example of Ankara University institute of educational sciences). *National Education Journal*, 173, 157-172.
- İpek, C., Tekbıyık, A., & Ursavaş, Ö. F. (2010). Postgraduate students' research self-efficacy beliefs and computer attitudes. *Anadolu University Journal of Social Sciences*, 9(1), 127-145.
- İpek-Akbulut, H., Şahin, Ç., & Çepni, S. (2013). Determination of faced problems in doctorate thesis process: Education faculty sample. *Dicle University Journal of Ziya Gökalp Faculty of Education*, 20, 50-69.
- Kurnaz, M. A., & Alev, N. (2009). Problems of primary and secondary education graduate students about lesson selection approaches. *Journal of Turkish Science Education*, 6(3), 38-52.
- Kurt, A. A., Yıldırım, Y., Becit, G., Uysal, Ö., Bağcı, H., & Özdamar, N. (2007, October). *Views of students about research methods in social sciences lesson*. III. Post Graduate Education Symposium, Anadolu University, 371-379.
- Lambie, G.W., Hayes, B.G., Griffith, C., Limberg, D., & Mullen, P.R. (2013). An exploratory investigation of the research self-efficacy, interest in research, and research knowledge of Ph.D.in education students. *Innovative Higher Education*, 39(2).
- Love, K.M., Bahner, A.D., Jones, L.N., & Nilson, J.E. (2007). An investigation of early research experience and research self-efficacy. *Professional Psychology: Research and Practice*, 38(3), 314-320.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Oğuzkan, F. (1993). *Educational terms dictionary*. Ankara: Turkish Language Institute Press.
- Saracaloğlu, A. (2008). The relationship between postgraduate students' academic motivation level, research anxiety and attitudes with their research competence. *Yüüncü Yıl University Journal of Faculty of Education*, V(II), 179-208.
- Saracaloğlu, A. S., Varol, S. R., & Ercan, İ. E. (2005). Research anxiety, attitudes to research and statistics of graduate students and their relation to research adequacy. *Buca Journal of Faculty of Education*, 17, 187-199.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26, 207-231.
- Szymanski, D. M., Ozegovic, J. J., Phillips, J. C., & Briggs-Phillips, M. (2007). Fostering scholarly productivity through academic and internship research training environments. *Training and Education in Professional Psychology*, 1, 135-146.
- URL-1. <http://www.turkyaybir.org.tr/komisionlar/milli-egitim-bakanligi-yabanci-dil-egitimi-ve-ogretimi-yonetmeligi/375>, Foreign language education and teaching regulations of ministry of education, 11 September 2013.
- Yavuzer, H., & Göver, İ. H. (2012). The foreign language of academic staff and their attitudes toward foreign language exams: Nevşehir University case. *Nevşehir University Journal of Social Sciences*, 1